

What is claimed is

1. A liquid pipetting apparatus for dispensing liquid of small volume comprising a liquid holding member for holding the liquid, and capable of dispensing the liquid from one end, and a driving member for moving the liquid holding member forward and backward along the dispensing direction, the liquid holding member being moved by the driving means, thereby dispensing the liquid held on the liquid holding member.
2. A liquid pipetting apparatus as claimed in claim 1, wherein the liquid holding member holds the liquid in the inner portion thereof, and has a dispense vent for dispensing the liquid held inside thereof.
3. A liquid pipetting apparatus as claimed in claim 2, wherein the liquid holding portion of the liquid holding member has a taper shape of which the cross-sectional area becomes small as approaching the dispense vent.
4. A liquid pipetting apparatus as claimed in claim 1, wherein the liquid holding member is connected to the driving means detachably.
5. A liquid pipetting apparatus as claimed in claim 1, wherein the liquid is dispensed by rapidly moving the liquid holding member in the direction opposite to the dispensing direction of the liquid by the driving member.
6. A liquid pipetting apparatus as claimed in claim 1, wherein the liquid is dispensed by moving the liquid holding member in the dispensing direction of the liquid and by stopping it rapidly.
7. A micro array manufacturing apparatus for manufacturing a micro array by dispensing on a substrate a minute volume of the liquid including probes capable of being connected for a target

substance in the peculiarity comprising: a liquid holding member for holding the liquid therein, and capable of dispensing the liquid from a dispensing vent provided at one end thereof; and a driving member for moving the liquid holding member forward and backward along the dispensing direction; whereby the liquid held to the liquid holding member is dispensed by moving the liquid holding member with the driving means; and further comprising a relative moving member which relatively moves the substrate and the liquid holding member in a plane orthogonal to the dispensing direction of the liquid.

8. A micro array manufacturing apparatus as claimed in claim 7, wherein a liquid container where the liquid supplied to the liquid holding member is accommodated, is formed in such a manner that the liquid surface is opened so as to contact it to atmosphere directly, the liquid holding member has an other side which is made an opening end at opposite side to the dispense vent, the opening end is formed so as to soak it in the liquid in the liquid container, and the liquid is supplied in the liquid holding member from the liquid container under the capillary action.

9. A micro array manufacturing apparatus as claimed in claim 7, wherein the substrate is moved by the relative displacement member.

10. A micro array manufacturing apparatus for manufacturing a array by dispensing on a substrate a minute volume of the liquid including probes capable of being connected for a target substance in the peculiarity comprising: a liquid holding member for holding the liquid therein, and having a dispense vent for dispensing the liquid at one end and having an opening end provided at another end, a driving member for generating dispense pressure to dispense the liquid held to

the liquid holding member, a relative moving member for relatively moving the substrate and the liquid holding member in a plane orthogonal to the dispensing direction of the liquid, and a liquid container for accommodating the liquid supplied to the liquid holding member and is formed in such a manner that the liquid surface is opened so as to contact it to atmosphere directly, whereby the opening end of the liquid holding member being made soaked into the liquid in the liquid container, and the liquid is supplied in the liquid holding member from the liquid container under the capillary phenomenon.

11. A micro array manufacturing apparatus as claimed in claim 10, wherein the driving member is made a member for adding thermal energy to the liquid held in the liquid holding member.

12. A micro array manufacturing apparatus as claimed in claim 10, wherein the driving member is made a member for deforming an internal shape of the liquid holding member.

13. A micro array manufacturing method for manufacturing a micro array by dispensing on a substrate a minute volume of liquid including probes capable of being connected in peculiarity for a target substance, comprising a dispensing step for dispensing the liquid in the inner portion thereof, from the dispensing vent of a liquid holding member by moving the liquid holding member forward and backward along the dispensing direction of the liquid holding member; and a step for relatively moving the substrate and the liquid holding member in a plane orthogonal to the dispensing direction of the liquid.

14. A micro array manufacturing method for manufacturing a micro array by minutely dispensing on a substrate a minute volume of liquid including probes capable of being connected in peculiarity for a target substance, comprising a supplying step for supplying the liquid

in the liquid holding member from the opening vent of the liquid holding member opposite to the dispensing end by capillary action; a dispensing step for dispensing the liquid from a dispensing vent by generating the dispensing pressure to the liquid in the inner portion of the liquid holding member; and a step for relatively moving the substrate and the liquid holding member in a plane orthogonal to the dispensing direction of the liquid.

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